A Design for Multiple Interactive Narratives in VR Scenarios

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The virtual reality scenarios that have been developed in the Electronic Visualization Lab (EVL) at the University of Illinois—Chicago use narratives to structure the events that occur in the CAVE in three distinct ways: (1) as story frames, (2) as dramatic interactions, and (3) as tours. The NICE project is an example of a story frame. The circumstance that the project is framed as a garden produces the story of the garden's development which is recorded on a story board. Josephine Antsy's "The Thing Growing" is a story experienced virtually in terms of the audience leader's dramatic interaction with the protagonist. Within relatively limited parameters, the narrative changes depend on the "drama" created by the interaction. The Virtual Harlem (VH) project involves a narrative only to the extent that one tour of the cityscape differs from another tour.

This paper proposes a different narrative form which we will term "VR-history" because it is an attempt to tell an historical tale about the Harlem Renaissance. Historical narratives have several identifiable features: they are chronological, "logical," and situated in distinct settings which no longer exist in the same state. All of these features are significant in developing a VR history.

Chronicles and Calendars

There are two applications of the term "chronological" that are pertinent to the development of VH as a VR-history—chronicles and calendars. Chronicle applies because the Harlem Renaissance (HR) is sometimes chronicled as three periods of time: The Bohemian Period (1917-1923), The Talented Tenth Period (1924-1926), and The Negro Renaissance Period (1926-1935). Thus one way of telling the history of the Harlem Renaissance in VH is by showing the changes that Harlem Renaissance scholars argue gave rise to these periods. Although this is an ultimate goal of the Virtual Harlem project, at this time we propose a less comprehensive form of VR-history to lay the foundation for the larger chronicle.

We propose to begin with the chronological narratives of every-

day life in Harlem during one of the periods. Such narratives can be thought of as "diaries." If you merge the idea of a diary with the sort of "calendar" one finds in Microsoft Office and other program suites, then you have an account of "a day in the life of" or a "slice of life" narrative. Usually one would read the diary of a single person during a particular period of time. However, many productions of the History Channel, for example their Ellis Island CD, strings together diary-like entries using voice-over techniques to form a variety of narrative pathways through the historical documents they have arranged on the CD. This type of narrative is suitable to historical projects such as Virtual Harlem (VH). Telling the stories of everyday life in Harlem during one of the HR periods is our point of departure. This brings us to a consideration of the narrative logic required for such storytelling.

Narrative Logic

Chronology is not the most interesting mode of storytelling. Imagine telling in chronological succession the events of your day. Relatively trivial and routine sequences of events do not ordinarily sustain audience interest. They lack narrative logic. Most narratologists propose some variant of the following cause-effect chain of events structured by a motive:

> 1. Jack hates Joe who is trying to steal Jill away from him; so

> 2. Jack fights Joe and wins; then, as a result of winning,

> 3. Joe avoids Jill making it possible for Jack and Jill (who also as a result of #2 prefers Jack) to live happily ever after.

The initial state of affairs in stories is usually portrayed as a conflict, a powerful desire, or a combination of the two. For example: Jack hates Joe because Joe loves Jill, whom Jack also loves, is a state of affairs in which there is both a conflict (Jack hates Joe) and a strong desire (Jack loves Jill). Such an initial state of affairs sets up a psychological expectation in an audience: they expect to find out who wins Jill. To resolve the initial state of affairs, some character must take action, which sets a cause-effect chain of events into motion. In the second phase of the narrative, an event (Jack fights Joe and wins) causes the first state of affairs to be resolved in the third and concluding phase of the narrative, thus the audience now knows how this conflict was resolved. At the same time, winning removes Joe as a suitor of Jill and thus Jack's desires for Jill are now unimpeded, thus the audience also finds out "who got the girl." What sets a story apart from a chronicle is the audience's involvement in the narrative. The audience is induced to identify with one character and to hope that her or his conflicts and desires are suc-

cessfully resolved.

Though my examples have been from fiction, histories are also stories and employ similar modes of narrative logic; for example,

> Germany declares war on Poland, they battle, and Germany defeats Poland; then, as a result, Germany declares war on other countries; as a result, England and the United States become allies; then, as a result, they invade Normandy and fight the German army and defeat them; then, as a result, France, the Netherlands, and other countries are liberated.

We don't mean to trivialize historical writing by making the narrative logic so simplistic but hope only to suggest that, even in the most complex histories, motives are assigned, thus setting up a logic of expectations through which readers identify with a "cause," etc. Of course, the motives with which audiences identify depend upon the situation in which the history is embedded.

Narrative Situations

An abstract story that leaves out all the concrete details of its situation makes it difficult for an audience to identify with any character's motives. If Jack, Joe, and Jill were all colleagues or friends of yours, the very abstract story we told above, now concretized, would be likely to occasion an emotional reaction. This aspect of storytelling takes us into the realm of narrative modes. Audiences are accustomed to a variety of narrative modes ranging from fantasy to photographic realism. When these expectations are violated, the effect of the story is diminished.

The obvious expectation in an historical narrative is realism. Even in historical fictions, audiences are disturbed when the situations described are not accurate reflections of the current bank of historical knowledge. Our narratives are intended to be VR histories and thus require exact information about the ways the stories are situated in VH.

Episodic Narratives

If we understand narrative as a sequence of events structured by motivational logic, we have to consider the level of complexity that 3D programming can achieve in portraying motivational logic. We believe that it is safe to assume that, at this time, any narrative designed for a VR scenario should stay relatively simple. This suggests that an "episodic" narrative structure would be a good starting point. By definition, an "episodic narrative" is "a loosely woven plot; a plot in which no strong causal continuity exists between one event or episode and the next" (Prince 87). Our earliest narratives—Gilgamesh, the Odyssey, the Iliad, Jason and the

Golden Fleece—are episodic. They are characterized by a very general story: the hero wishes to return home or to find a treasure; so, he goes on a journey in which there are a series of episodes not bound by the same motivational logic but which simply present an obstacle in the quest's larger narrative logic. As a result, the hero arrives home and/or finds the treasure. The bulk of the narrative is made up of episodes.

Routines--the Episodes of Everyday Life

Everyday life consists of habitual routines which make up the fabric of our lifestyles. When you move from one neighborhood to another or go from one country to another, the routines differ. If we think of "routines" as comprised of cultural practices like going dancing, shopping, to church, for a walk, to a play, then it becomes possible to acquaint students with the culture of Harlem during its Renaissance. At the same time, such routines can be strung together into historical vignettes and can give students a virtual experience of life in Harlem.

"Going to the Cotton Club" as an Historical Vignette

In its present incarnation, VH can only be "toured." You can go into the Cotton Club and listen to jazz and watch dancers. Such a tour is not a virtual experience of going to the Cotton Club in, for example, 1928. Touring Harlem is an experience in which the audience remains at a considerable temporal distance from the situation. The tour does not invite the audience to participate in the life of Harlem in 1928 or any other year that might be focal.

However, if a visitor to VH identified with a character in a story about going to the Cotton Club, the experience of Harlem in 1928 would be intensified to the extent that he or she would become emotionally involved.

As a chronology, we can imagine a sequences of events that pertained to an African American, such as:

1. Left school
2. walked home
3. had some supper
4. changed clothes
5. walked to the Cotton Club
6. entered the back door
7. put on a waiter's uniform
8. waited on a table.

Quite a different one would pertain to a white person:

1. Left work
2. walked home
3. had some supper

   4. changed clothes
   5. took a cab to the Cotton Club
   6. entered the front door
   7. was seated at a table
   8. listened to the music.

   If we put these two chronologies together, the results begin to introduce story elements (conflict/desire) and figures with whom to identify.

   1. An African American boy left school
   2. walked home
   3. had some supper
   4. changed clothes
   5. walked to the Cotton Club
   6. entered the back door
   7. put on a waiter's uniform.
   8. An older while man arrived in a cab
   9. entered the main door
   10. was seated at a table
   11. listened to the music
   12. was waited on by the African American boy.

   Suppose a visitor could choose whether he (a different routine would pertain for women) wanted to experience going to the Cotton Club as an African American or as a white male. A white visitor could then choose to experience the routine as an African American, and he might get emotionally involved in the scene when he discovered that "going to the Cotton Club" was a radically different experience for both African American and white males.

Narrative Control

   In the tour, the guide (the person who is using the remote) has control over the sequence of events as long as he stays within the space as it is designed. So, if he sees the marquee of the Cotton Club, he can go there. Control of the experience differs in the history where the visitor chooses a role and a routine and then the history unfolds outside of his control. [Note: Although this may seem to reduce the interaction in the scenario, it could, in fact, intensify it because the visitor's choice has consequences associated with role-identification.]

Narrative Control as a Set of Decisions

   In computer games, the player often makes decisions that change the sequence of game events. Although all the routines involved in VH would be accurate historically, the visitor would have the sense of experiencing that history because each choice has consequences as it does in normal experience (e.g., we decide to leave the house without an umbrella even though it looks like rain. Later

it rains and we get soaked). What is experienced narratively is the consequence.

Recall the structure of narrative logic. An initial situation sets off a cause-effect chain of events. In effect, the story aspect of the VR history is precipitated by the visitor who "sets off" a chain of events. For example, once the visitor decides to follow the "going to the Cotton Club" episode (CC), if a male, he would be asked to choose whether he wanted to go as an African American (AA) or as a white person (W). Then he would be asked if he wanted to go as a male (M) or a female (F). Once his avatar is established, let's say as an African American Woman, he would then be asked whether he was an older or younger person. If he said, younger, he'd find himself starting out at school; if older, then at home. If he had cho-

Diagram of Narrative pathways #1
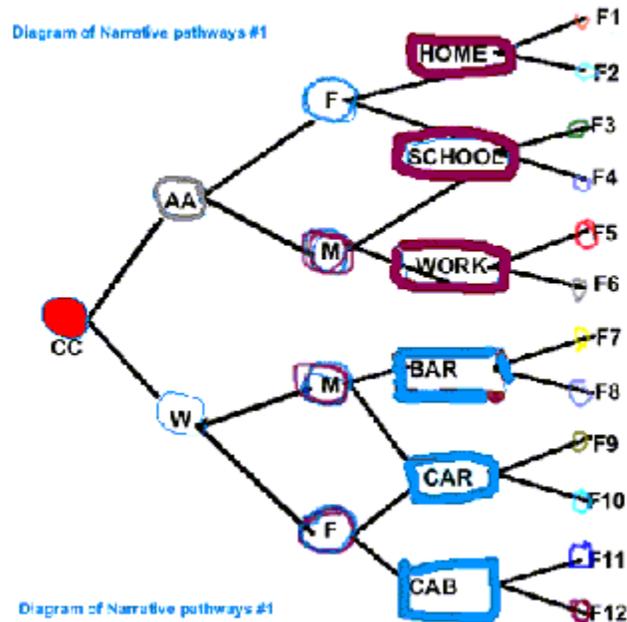
sen to assume the identity of an African American male, he would as a youth also start from school; but if older, from work. At this juncture, in either case, they might be asked to choose which street to walk down from school or home. Depending on their choice, they would encounter a different friend (F1 or F2 if older female, F3 or F4 if younger male or female, and so on.

Each encounter with a friend (an event within the episode) would initiate a sequence of choices like the ones above, eventually ending at the Cotton Club (see below for an illustration). There are several advantages to this narrative scheme:

The visitor has to assume an identity (an avatar) and thus the identification process is inaugurated

The scheme is interactive giving the visitor the sense of making decisions that have outcomes.

Navigating VH is simplified in that the visitor, by making a particular decision, chooses a route through VH which does not require the unwieldy remote to move from one spot to another.

One of the advantages of the "decision tree" type of narrative control is that, although only one person may hold the remote, everyone in the CAVE can have a say in the decision-making before the left or right button is pressed.

The visitor has the illusion of having more choices than are actually built into the scenario.

Notice that in the third level of diagram one (home/school/work/bar/car/cab), school is an option for both the African American male and female avatars and car is an option for both the male and female white avatars. So, whereas the experience seems to involve eight options, only six have to be built. On the fourth level (F 1-12), the number of friends could be reduced by half and still provide visitors with a sense of more freedom than they actually have.

This (see previous note) would help in constructing VH because one could start with six "friends" and then add more at a later time.

It should be relatively easy to establish "friends" in specific locations throughout VH, thus allowing for both an easy movement toward the final destination and a conversation that leads to a question, the answer to which provides another "decision node."

Also, the conversations could be taken from novels, stories, diaries, oral histories and provide an historical experience that reflects the period under study.

Again, the narrative pathways could be set up at first to work in all three historical periods of the Harlem Renaissance and then at a later point; the number of friends could be increased so that their conversations reflected a distinct period.

> "Friends" could be used in other episodes — going to school, going to church, et cetera.

> "Friends" are an easy device to build, and similar models can be used with different faces, et cetera.

Another potentially useful aspect of this design is that a slightly different set of initial choices could be given at the outset of the episode sequence and provide an even larger range of pathways through the episode. For example, the initial two choices might be MALE/FEMALE and OLDER/YOUNGER, and the avatar would always be an African American.

Once the "friends" event is reached, it can trigger any number of possible endings to the episode of "going to the Cotton Club." For example:

Diagram of Narrative pathways #2
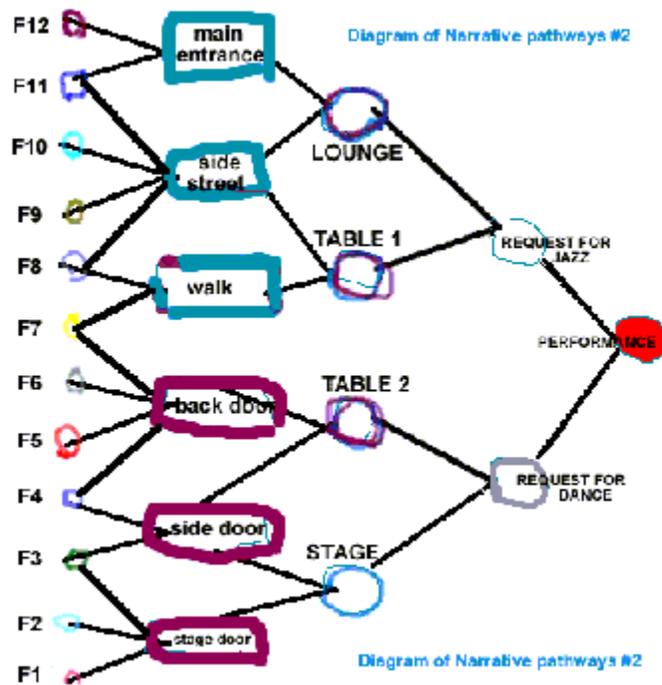
In this diagram, the events decrease as the episode proceeds, retaining a fair degree of alternative routes. The routes can be increased, for example, by increasing the options from two to three as is illustrated in the movement from the event "meets a friend" to

the event "enters the Cotton Club." Note that when a white visitor meets friend #8, one event option is to "enter the back door" usually reserved for African Americans. It would be easy to have an African American have the option of "entering through the front door" and be turned away.

Of course it is entirely possible to expand the decision tree at the "friend's" event rather than contract it. For example:

Diagram of Narrative pathways #3

Diagram of Narrative pathways #3
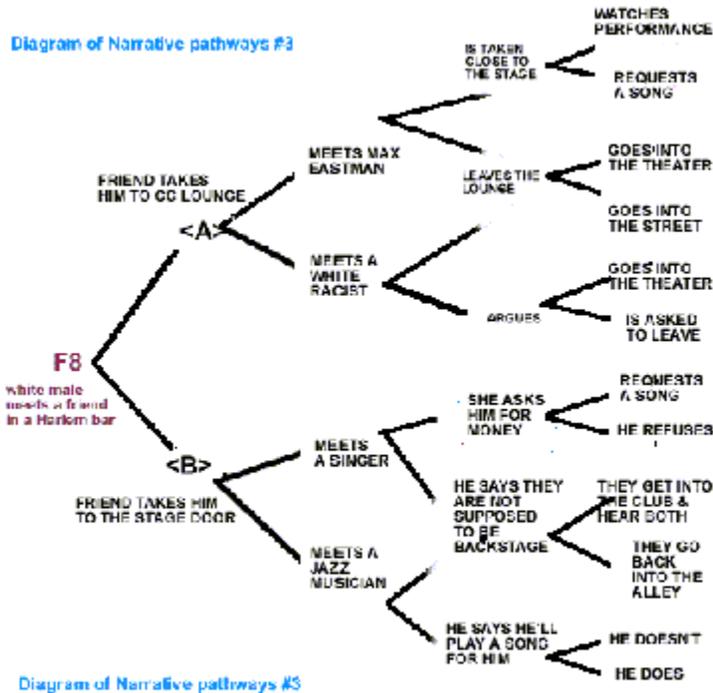
This is a quick sketch to illustrate the possibilities. The sketch suggests that a given research team could work on a routine episode like "Going to the Cotton Club" and explore what might happen in the kinds of everyday routines for which we are calling. It would appear that additional decision trees can be added at a variety of locations in the narrative sequence.

Maps and Timetable

The VR history narratives we envision require planning. However, this offers an opportunity for significant collaborative research. A tentative "narrative architecture" needs to be planned by Harlem Renaissance scholars to direct the efforts of contributors to the project. We have offered a modest "architecture" related to

a single episode routine, "Going to the Cotton Club." There are innumerable other possible episode routines. Each needs to be grounded in historical scholarship. Further, in order to build the larger VR history that is implied by the Virtual Harlem project, the sequence of episodes needs to be carefully planned in advance of any course devoted to the Harlem Renaissance, especially those courses in which students are invited to be contributors to the project.

Conclusion

While it may seem that such narratives lack dramatic elements usually associated with literature, the most significant aspect of their audience effect is that they portray routines of everyday life that can be recognized by almost anyone. Though in literary circles such pedestrian narratives have little importance, if any, in psychological circles, they are re-configurations of personal world-views and play critical roles in our lives as interpretive frameworks (see Sosnoski in this volume). The potential these humdrum narratives have is that everyday routines of an African American living in Harlem in the 1920s can be recognized as analogous to the everyday routines of persons living in the 21st century and thus become the basis of identifications that lead to re-configuring stereotypical views of African American culture (see Carter's essay in this volume). And, of course, there is no reason why everyday life can not be the material of an engaging drama that would satisfy the harshest drama critic.